

### **REMARKS and ARGUMENT**

This paper is in response to the first Office Action, which was mailed April 11, 2003 with regard to the above-identified application. This response is being filed within the first month following expiration of the three-month period set for reply in the Office Action. A request for an extension of time and a check to cover the associated fee accompany this response. Authorization is provided to charge any additional fee associated with this response, or to credit any over-payment, to Deposit Account No. 50-0573.

Claims 3 – 7 and 10 – 21 are pending in the application. Claims 1, 2, 8 and 9 have been cancelled. Claims 3 and 13 have been amended to clarify that the concentration level of the contaminant, which has been thermally stripped, is further reduced by introduction of an oxidizing agent. Claim 7 has been amended to recite that potassium permanganate is introduced as a crystalline powder into the soil. Claims 17 – 21 have been added to the application and are discussed below. No new matter has been added by the amendment.

#### **Rejections under 35 USC § 103**

The Office Action includes a rejection of claims 3 – 5 as allegedly obvious over the combination of Manchak Jr. '194 and Manchak Jr. '807. The combination does not suggest or disclose the thermal stripping of a contaminant to reduce the concentration thereof, followed by the introduction of an oxidizing agent to further reduce the level of the same contaminant. In fact, the Examiner has recognized that Manchak Jr. '807, at column 3, lines 37 – 45, indicates that an oxidizing agent is used only for organic compounds that are not volatile at the temperature of the stripping fluid.

As suggested by the Examiner in paragraph 9 of the Office Action, claim 3 has been amended to clarify that the method of the present invention involves the introduction of an oxidizing agent to further reduce the concentration level of a contaminant that has already been subject to thermal stripping. Also, the requirement that the step of injecting hot air is continued until thermal stripping is no longer practically effective, which was the subject matter of dependent claim 3 as originally filed, has been removed from claim 3. Because the Manchak references do not describe or suggest the claimed process, and particularly the oxidation of a

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contaminant that was previously subject to thermal stripping, claim 3 is patentable over the combination. For at least this reason, claims 4 – 6, which depend therefrom, are also patentable.

Claims 7, 8, 10 and 11 have been rejected over the Manchak Jr. references in further combination with Bruso. Claim 12 has been rejected as obvious over the combination in further view of Vinegar. Claim 7 has been amended to recite that potassium permanganate is introduced as a crystalline powder into the soil. Support for the new recitation can be found, for example, in paragraph 0019 (page 7, line 2) of the specification. In addition, the requirement that the step of injecting hot air is continued until thermal stripping is no longer practically effective, which was added to the claim in response to the first Office Action, has been deleted from claim 7.

Manchak Jr. '194 mentions an oxidizing agent in column 8 (claims 15 and 16), but provides no indication of the form in which the oxidizing agents are injected. Presumably, the oxidizing agents are in the same form as those described in Manchak Jr. '807, which include potassium permanganate in an aqueous solution. (*See* col. 3, line 43.) The Manchak Jr. references, either alone or in combination, do not describe or suggest the introduction of potassium permanganate as a crystalline powder. For at least this reason, claim 7 and its dependent claims 8 and 10 - 12 are believed to be patentable over the cited combination.

Claim 13 has been rejected as obvious over the Manchak Jr. references. Similar to claim 3, claim 13 has been amended to clarify that the concentration level of a contaminant that has been thermally stripped is further reduced by introducing an oxidizing agent. Specifically, claim 13 now recites that the **volatile** organic contaminant is further reduced by introducing an oxidizing agent. (In contrast, Manchak '807 indicates that an oxidizing agent can be used when toxic organic compounds, which are not volatile at the temperature of the steam, are present.) Thus, claim 13 is clear that the oxidizing step applies to the same volatile contaminant as does the step of thermal stripping. For reasons similar to those set forth above in connection with claim 3, claim 13 and its dependent claims 14 – 16 are also patentable over the combination.

#### **New Claims**

New claims 17 and 20 are directed to subject matter similar to that of claims 3 and 9 as originally filed. Claims 18 and 19 further define the contaminant recited in claim 3. Claim 21 is

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similar to amended claim 3, while specifically reciting that tetrachloroethylene is the target of both the thermal stripping step and the step of introducing an oxidizing agent. Support for new claim 21 can be found in the descriptions of Field Tests 1 and 2 in the specification.

### **Conclusion**

It is believed that the pending claims are patentable over the cited prior art. Therefore, it is respectfully requested that the present rejections and objections be reconsidered and withdrawn. If direct communication will expedite the allowance of the application, the Examiner is invited to telephone the undersigned attorney for applicant.

Respectfully submitted,

BRUCE L. BRUSO

BY:   
STEVEN A. NASH  
Registration No. 45,507  
Drinker Biddle & Reath LLP  
One Logan Square  
18<sup>th</sup> and Cherry Streets  
Philadelphia, PA 19103-6996  
Tel: 215-988-3313  
Fax: 215-988-2757

Attorney for Applicant